REMARKS

The Office Action dated June 1, 2007 has been received and carefully noted. The above amendments to the claims and specification, and the following remarks, are submitted as a full and complete response thereto.

Claims 22, 28, 33, and 38-42 have been amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 43-46 have been added. The specification has been amended to more accurately describe the invention. No new matter has been added. Thus, claims 22-46 are currently pending in the application and are respectfully submitted for consideration.

The Office Action objected to Figure 1 as failing to comply with 37 C.F.R. §1.84(p)(5) because it allegedly contains reference numerals that are not described in the specification. The specification has been amended to include references to blocks 17, 18, and 19 in Figure 1. No new matter has been added. Accordingly, Applicants submit that this objection is rendered moot.

Claims 22 and 33 were objected to because "suffix" was misspelled. Claims 22 and 33 have been amended to correct this typographical error. As such, Applicants submit that this objection is also rendered moot.

Claims 22-25, 28-36, and 39-42 were rejected under 35 U.S.C. §102(e) as being anticipated by Tiuri (U.S. Patent No. 6,829,230). The rejection is respectfully traversed for at least the following reasons.

Claim 22, upon which claims 23-32 are dependent, recites a method including generating unique internet protocol address from the geographical location data. The internet protocol address has a global prefix portion and a local suffix portion, and the geographical location information is coded in the suffix part of the address.

Claim 33, upon which claims 34-42 are dependent, recites a router for routing internet protocol packets in which the unique address is based on geographical location information and has a global prefix portion and a local suffix portion. The router is configured to harness the geographic location information coded to the suffix portion of the address in routing packets to the destination nodes located in the subnetwork.

Claim 43 recites an apparatus comprising generating means for generating unique internet protocol address from the geographical location data. The internet protocol address has a global prefix portion and a local suffix portion, and the geographical location information is coded in the suffix part of the address.

Claim 44 recites a unique internet protocol address comprising a global prefix portion and a local suffix portion. The unique internet protocol address is generated from geographical location data of one of a node and a router connected to said node, and the geographical location information is coded in said suffix part of said unique internet protocol address.

Claim 45 recites a routing component for routing internet protocol packets. A unique internet protocol address is based on geographical location information of one of said routing component and a node connected to the routing component, and the unique

internet protocol address has a global prefix portion and a local suffix portion. The routing component is configured to utilize the geographic location information being coded to said suffix portion of said unique internet protocol address, in routing packets to destination nodes located in a subnetwork.

Claim 46 recites a system for routing internet protocol packets. The system includes a router configured to route data packets between internet and a subnetwork, said subnetwork comprising a group of nodes. A unique internet protocol address is based on geographical location information of one of said router and one node of said group of nodes. The unique internet protocol address has a global prefix portion and a local suffix portion, the router being configured to utilize said geographic location information, the geographic location information being coded to the suffix portion of said unique internet protocol address, in routing packets to destination nodes located in said subnetwork.

An advantage of the invention is, that with addressing based on the geographic location, the configuring of the link can be fully automatic, without the need of coordinating the allocation of unique MAC addresses between the device manufacturers. If the geographically based addressing is used in layer 3, the configuring and routing table generation of the network can be fully automatic. A further advantage is that the applications and the users can easily receive the geographic location information of the network device when it is inbuilt into the IP address of the device. The location information can be utilized in the geographically addressed network to improve the

network performance; one example is to use it in the routing algorithm of an ad-hoc network to improve the routing performance. Further, this kind of addressing based on geographical location can be utilized in optimizing the radio connections between nodes, because the distance and direction of the destination node is known from the location-based addresses. Location based services and service discovery functions, like finding the nearest printer, are easy to realize as the addresses directly indicate the geographic location of the device. Also, the geographically addressed networks are easy to integrate seamlessly to any IP based networks by using this principle. Yet another advantage is the compatibility with the present IPv6 applications. Utilization of the invention does not require any changes to the standards relating to IPv6.

As will be discussed below, Tiuri fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the advantages and features discussed above.

Tiuri discloses routing in a packet switched network. An address allocated to a user of a packet switched network includes information identifying a geographical location of the user, such as longitude, latitude, and altitude. The address is used to route data packets over the network from a remote location to the user, taking into account the geographical location of each router in relation to the location of the user. The geographical location of the user may be determined using a Global Positioning System receiver. The information identifying the geographical of the user may be contained in a header of each data packet to be routed.

Applicants respectfully submit that Tiuri does not disclose or suggest all of the elements of the present claims. For example, Tiuri fails to disclose or suggest that "the geographical location information is coded in the suffix part of the address," as recited in claim 22 and similarly recited in claims 33 and 43-46.

Column 4, lines 27-47 of Tiuri discloses an embodiment in which, out of 64 bits of an IP address, 54 bits are used to define the geographical location of the user and 10 bits are left available for devices addresses. As is known in the art, device addresses are contained in a suffix portion of an IP address. Therefore, a person of skill in the art would understand that the 54 bits used to define the geographical location of the user must be contained in a prefix portion of the IP address since the suffix portion is already used to store device addresses.

Column 6, lines 9-19 of Tiuri discloses another embodiment in which an IP address comprises a prefix corresponding to a geographical location of a node via which a cellular terminal connects to a network. In this embodiment, a suffix part corresponds to an identity of the cellular terminal. The Office Action, on page 3 thereof, appears to assert that Tiuri discloses coding geographical location information in the suffix by stating "terminal identity specifies geographical information as stated in Col. 6, lines 10-14" (Office Action, page 3). However, Applicants respectfully disagree. Applicants submit that it is clear that Tiuri discloses an embodiment where a prefix corresponds to a location of a connection node (e.g. a base station) associated with a mobile terminal, and where the suffix corresponds to an identity of the mobile terminal. As is known by those

skilled in the art, the term "terminal identity" commonly refers to an identity code assigned to a mobile terminal and which does not specify any geographical information whatsoever.

The distinction between arranging the information identifying the geographical location of the user in the prefix portion or in the suffix portion is an important one wince the use of the suffix portion provides significant advantages, as discussed above. For example, a drawback in assigning the geographical location information in the prefix portion of an IP address is the global nature of the prefix portion. If the prefix is generated from the geographical location information, the routing will change and changes must be applied to all routers globally. Furthermore, the prefix solution requires a change to the IPv6 standard.

Therefore, for at least the reasons discussed above, Tiuri fails to disclose or suggest that "the geographical location information is coded in the suffix part of the address," as recited in claim 22 and similarly recited in the remaining independent claims. Rather, Tiuri only discloses including geographical information in the prefix. Accordingly, Applicants respectfully assert that Tiuri fails to disclose or suggest all of the elements of claims 22, 33, and 43-46.

Claims 23-25, 28-32, 34-36, and 39-42 are dependent upon claims 22 and 33, respectively. Therefore, claims 23-25, 28-32, 34-36, and 39-42 should be allowed for at least their dependence upon claims 22 and 33, and for the specific limitations recited therein.

Claims 26 and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tiuri in view of Dobbins (U.S. Patent No. 6,249,820) and Bialk (U.S. Patent No. 6,952,729). The rejection is respectfully traversed for at least the following reasons.

Tiuri is discussed above. Dobbins discloses IP work group routing wherein multiple router interfaces are assigned the same IP network address. In an embodiment, transmission of datagrams is allowed only to or from hosts with certain addresses by locking network layer and physical layer addresses.

Bialk discloses a network management system and method for managing a hybrid fiber coax (HFC) network having network elements operable for communicating telephony, data and video signals with customer-premises equipment of a subscriber. A network management layer of the HFC network management system includes a network configuration manager which includes a service, design, and inventory (SDI) system having a database representing the HFC network. The database stores data representing the assigned capacity of the HFC network. The SDI system provides a query capability that includes a query by phone number, customer name, service address or network interface unit serial number.

Claims 26 and 37 are dependent upon claims 22 and 33, respectively. As discussed above, Tiuri fails to disclose or suggest all of the elements of claims 22 and 33. Furthermore, Applicants respectfully assert that Dobbins and Bialk do not cure the deficiencies in Tiuri, as Dobbins and Bialk also do not disclose or suggest that "the geographical location information is coded in the suffix part of the address." As such, the

combination of Tiuri, Dobbins and Bialk does not disclose or suggest all of the elements of claims 26 and 37. Additionally, claims 26 and 37 should be allowed for at least their dependence upon claims 22 and 33, and for the specific limitations recited therein.

Claims 27 and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tiuri in view of Orsic (U.S. Patent No. 6,147,986). The rejection is respectfully traversed for at least the following reasons.

Tiuri is discussed above. Orsic discloses address updating of wireless mobile terminal hosts affiliated with a wired network. With respect to IP traffic, each base station is viewed as a router that connects a wireless access sub-network to the Global Internet. Each cell has its own IP address, referred to as "netid." Each wireless mobile terminal/host is comprised of (netid, hostid). In addition, when a mobile terminal/host detaches itself from an "old" base station, the terminal/host relinquishes its old IP address.

Claims 27 and 38 are dependent upon claims 22 and 33, respectively. As discussed above, Tiuri fails to disclose or suggest all of the elements of claims 22 and 33. Furthermore, Applicants respectfully assert that Orsic does not cure the deficiencies in Tiuri, as Orsic also do not disclose or suggest that "the geographical location information is coded in the suffix part of the address." As such, the combination of Tiuri and Orsic does not disclose or suggest all of the elements of claims 27 and 38. Additionally, claims 27 and 38 should be allowed for at least their dependence upon claims 22 and 33, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 22-46 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Additional Claim Fee transmittal